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mixture made with alcohol, petroleum ether, water, hydrochloric acid and resins, starches, reducing sugars, proteins, fats, esters, free acids, and so on; this type of analysis of solid fuels allows a prediction to be made as to how the fuel will behave in a furnace. ('präk-sä-mät *a* -nal-ä-sas)

proximity detector [ENGINEERING] A sensing device that produces an electrical signal when approached by an object or when approaching an object. (präk'sim-äd-ä di-tek-tär)

proximity sensor [CONTROL SYSTEMS] Any device that measures short distances within a robotic system. Also known as noncontact sensor. (präk'sim-äd-ä 'sen-sär)

ps [MECHANICS] See picosecond.

psec [MECHANICS] See picosecond.

psf [MECHANICS] See pound per square foot.

psi [MECHANICS] See pound per square inch.

psia [MECHANICS] See pounds per square inch absolute.

psid [ENGINEERING] See pounds per square inch differential.

psig [MECHANICS] See pounds per square inch gage.

psophometer [ENGINEERING] An instrument for measuring noise in electric circuits; when connected across a 600-ohm resistance in the circuit under study, the instrument gives a reading that by definition is equal to half of the psophometric electromotive force actually existing in the circuit. (sō'fäm-äd-äär)

PSR [ENGINEERING] See primary radar.

psychointegrammeter [ENGINEERING] See lie detector. ('sī-kō-in-tä-grō'äm-äd-äär)

psychogalvanometer [ENGINEERING] An instrument for testing mental reaction by determining how skin resistance changes when a voltage is applied to electrodes in contact with the skin. ('sī-kō-gal-vä'näm-äd-äär)

psychomotor performance [INDUSTRIAL ENGINEERING] The degree of skill demonstrated by an operator in the completion of a task. ('sī-ka-mōd-äär par'fōr-mäns)

psychomotor task [INDUSTRIAL ENGINEERING] An aspect of a job that requires the operator to use controlled movements of the body. ('sī-ka-mōd-äär *task*)

psychosomatograph [ENGINEERING] An instrument for recording muscular action currents or physical movements during tests of mental-physical coordination. ('sī-kō-sä'mad-ägraf)

psychrometric ratio [THERMODYNAMICS] Ratio of the heat-transfer coefficient to the product of the mass-transfer coefficient and humid heat for a gas-vapor system; used in calculation of humidity or saturation relationships. (,sī-krä'mad-ik-rä shö)

psychrometer [ENGINEERING] A device comprising two thermometers, one a dry bulb, the other a wet or wick-covered bulb, used in determining the moisture content or relative humidity of air or other gases. Also known as wet and dry bulb thermometer. (sī'kräm-äd-äär)

psychrometric calculator [ENGINEERING] A device for quickly computing certain psychrometric

data, usually the dew point and the relative humidity, from known values of the dry- and wet-bulb temperatures and the atmospheric pressure. (,sī-krä'me-trik 'käl-kyä-läd-äär)

psychrometric chart [THERMODYNAMICS] A graph each point of which represents a specific condition of a gas-vapor system (such as air and water vapor) with regard to temperature (horizontal scale) and absolute humidity (vertical scale); other characteristics of the system, such as relative humidity, wet-bulb temperature, and latent heat of vaporization, are indicated by lines on the chart. (,sī-krä'me-trik 'chärt)

psychrometric formula [THERMODYNAMICS] The semiempirical relation giving the vapor pressure in terms of the barometer and psychrometer readings. (,sī-krä'me-trik 'förm-yä-lä)

psychrometric tables [THERMODYNAMICS] Tables prepared from the psychrometric formula and used to obtain vapor pressure, relative humidity, and dew point from values of wet-bulb and dry-bulb temperature. (,sī-krä'me-trik 'tä-bälz)

psychrometry [ENGINEERING] The science and techniques associated with measurements of the water vapor content of the air or other gases. (sī'käm-ä-trë)

public address system [ENGINEERING ACOUSTICS] See sound-reinforcement system. ('püb-lik *ä*-dres-sis-täm)

public area [BUILDING-CONSTRUCTION] The total nonrentable area of a building, such as public conveniences and rest rooms. ('püb-lik'är-ä-ä)

public utility [INDUSTRIAL ENGINEERING] A business organization considered by law to be vested with public interest and subject to public regulation. ('püb-lik yü'til-äd-ä)

public works [INDUSTRIAL ENGINEERING] Government-owned and financed works and improvements for public enjoyment or use. ('püb-lik 'wärks)

puddle [ENGINEERING] To apply water in order to settle loose dirt. (pëd-äl)

puff [MECHANICAL ENGINEERING] A small explosion within a furnace due to combustion conditions. (pöf)

pug mill [MECHANICAL ENGINEERING] A machine for mixing and tempering a plastic material by the action of blades revolving in a drum or trough. ('pëg ,mil)

puking [CHEMICAL ENGINEERING] In a distillation column, the foaming and rising of liquid so that part of it is driven out of the vessel through the vapor line. ('pyük-iŋ)

puller [MECHANICAL ENGINEERING] A lever-operated chain or wire-rope hoist for lifting or pulling at any angle, which has a reversible ratchet mechanism in the lever permitting short-stroke operation for both tensioning and relaxing, and which holds the loads with a Weston-type friction brake or a releasable ratchet. Also known as come-along. ('püll-är)

pulley [DESIGN ENGINEERING] A wheel with a flat, round, or grooved rim that rotates on a shaft and carries a flat belt, V-belt, rope, or chain to transmit motion and energy. ('püll-ë)

wind correction

in which the solid material to be ground is mixed with liquid. 2. A mill in which the grinding energy is developed by a fast-flowing liquid stream; for example, a jet pulverizer. ('wet 'mil)

wet scrubber [ENGINEERING] A device designed to clean a gas stream by bringing it into contact with a liquid. ('wet 'skrəbər)

wet sleeve [MECHANICAL ENGINEERING] A cylinder liner which is exposed to the coolant over 70% or more of its surface. ('wet 'slēv)

wet slip [CIVIL ENGINEERING] An opening between two wharves or piers where dock trials are usually conducted, and the final fitting out is done. ('wet 'slip)

wetted-wall column [CHEMICAL ENGINEERING] A vertical column that operates with the inner walls wetted by the liquid being processed; used in theoretical studies of mass transfer rates and in analytical distillations; an example is a spinning-band column. ('wed-əd 'wol 'kāl-əm)

wet-test meter [ENGINEERING] A device to measure gas flow by counting the revolutions of a shaft upon which water-sealed, gas-carrying cups of fixed capacity are mounted. ('wet 'test 'med-ər)

wetting agent [CHEMICAL ENGINEERING] A substance that increases the rate at which a liquid spreads across a surface when it is added to the liquid in small amounts. ('wed-ɪŋ 'ə-jənt)

wet well [MECHANICAL ENGINEERING] A chamber which is used for collecting liquid, and to which the suction pipe of a pump is attached. ('wet 'wel)

whaler [CIVIL ENGINEERING] See waler. ('wäl-ər)

wharf [CIVIL ENGINEERING] A structure of open construction built parallel to the shoreline; used by vessels to receive and discharge passengers and cargo. ('wôrf)

wheel [DESIGN ENGINEERING] A circular frame with a hub at the center for attachment to an axle, about which it may revolve and bear a load. ('wēl)

wheelbarrow [ENGINEERING] A small, hand-pushed vehicle with a single wheel and axle between the front ends of two shafts that support a boxlike body and serve as handles at the rear. Also known as barrow. ('wēl-bar-ō)

wheel base [DESIGN ENGINEERING] The distance in the direction of travel from front to rear wheels of a vehicle, measured between centers of ground contact under each wheel. ('wēl 'bās)

wheel dresser [ENGINEERING] A tool for cleaning, resharpening, and restoring the mechanical accuracy of the cutting faces of grinding wheels. ('wēl 'dres-ər)

wheeled crane [MECHANICAL ENGINEERING] A self-propelled crane that rides on a rubber-tired chassis with power for transportation provided by the same engine that is used for hoisting. ('wēld 'krān)

wheel load capacity [CIVIL ENGINEERING] The capacity of airfield runways, taxiways, parking areas, or roadways to bear the pressures exerted by aircraft or vehicles in a gross weight static configuration. ('wēl 'lōd kā-pas-əd-ē)

wheel sleeve [DESIGN ENGINEERING] A flange used as an adapter on precision grinding machines where the hole in the wheel is larger than the machine arbor. ('wēl 'slēv)

white coat [BUILDING CONSTRUCTION] The finishing coat in plastering. ('wit-kōt)

Whitworth screw thread [DESIGN ENGINEERING] A British screw thread standardized to form and dimension. ('wit-wôrth 'skrū ,thred)

wicket dam [CIVIL ENGINEERING] A movable dam consisting of a number of rectangular panels of wood or iron hinged to a sill and propped vertically; the prop is hinged and can be tripped to drop the wickets flat on the sill. ('wik-ət ,dam)

wicking [ENGINEERING] The flow of solder under the insulation of covered wire. ('wik-ɪŋ)

wide-flange beam [CIVIL ENGINEERING] See H beam. ('wîd 'flanj 'bēm)

Wieso formula [ENGINEERING] An empirical relationship for motor fuel antiknock values above 100 in relation to performance numbers; basis for the American Society for Testing and Materials scale, in which octane numbers above 100 are related to increments of tetraethyllead added to isoctane. ('vē-zā ,fôr myə-lə)

Wild fence [ENGINEERING] A wooden enclosure about 16 feet square and 8 feet high with a precipitation gage in its center; the function of the fence is to minimize eddies around the gage, and thus ensure a catch which will be representative of the actual rainfall or snowfall. ('wîld ,fēns)

Willans line [MECHANICAL ENGINEERING] The line (nearly straight) on a graph showing steam consumption (pounds per hour) versus power output (kilowatt or horsepower) for a steam engine or turbine; frequently extended to show total fuel consumed (pounds per hour) for gas turbines, internal combustion engines, and complete power plants. ('wil-ənz ,lin)

winch [MECHANICAL ENGINEERING] A machine having a drum on which to coil a rope, cable, or chain for hauling, pulling, or hoisting. (winch)

winch operator [ENGINEERING] See hoistman. ('winch ,əp-ə-rād-ər)

windage [MECHANICS] 1. The deflection of a bullet or other projectile due to wind. 2. The correction made for such deflection. ('win-dij)

windage loss [ENGINEERING] In a ventilating or air-conditioning system, the decrease in the water content of the circulating air due to the loss of entrained droplets of water, expressed as a percentage of the rate of circulation. ('win-dij ,lōs)

wind box [ENGINEERING] A plenum chamber that supplies air for combustion to a stoker, gas burner, or oil burner. ('wind ,bôks)

windbreak [ENGINEERING] Any device designed to obstruct wind flow and intended for protection against any ill effects of wind. ('win-brâk)

wind cone [ENGINEERING] A tapered fabric sleeve, shaped like a truncated cone and pivoted at its larger end on a standard, for the purpose of indicating wind direction; since the air enters the fixed end, the small end of the cone points away from the wind. Also known as wind sleeve; wind sock. ('win-kōn)

wind correction [ENGINEERING] Any adjustment